NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

PRESCRIBED GRAZING

(Acre)

CODE 528A

DEFINITION

The controlled harvest of vegetation with grazing or browsing animals, managed with the intent to achieve a specified objective.

PURPOSES

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:

- Improve or maintain the health and vigor of selected plant(s) and to maintain a stable and desired plant community.
- Provide or maintain food, cover and shelter for animals of concern.
- Improve or maintain animal health and
- Maintain or improve water quality and quantity.
- Reduce accelerated soil erosion and maintain or improve soil condition for sustainability of the resource.

CONDITIONS WHERE PRACTICE APPLIES

This practice may be applied on all lands where grazing and/or browsing animals are managed.

CRITERIA

General Criteria Applicable for All the Purposes Stated Above

Removal of herbage will be in accordance with production limitations, plant sensitivities and management goals using Sections I and 11 of the North Dakota Technical Guide (NDTG) and other references as guidance.

Frequency of defoliations and season of grazing will be based on the rate and physiological conditions of plant growth.

Duration, time (season), and intensity of grazing will be based on desired plant community goals, expected productivity of key species, and management unit objectives.

The intensity, frequency, duration, and season of grazing will be manipulated to promote ecologically sound and economically stable plant communities which will sustain the resources of the ecosystem and meet the landowner's objectives.

Grazing use on range grasses and grass-like species will maintain at least 50 percent by weight of the current year's growth of the designated key species when grazed during the growing season and at least 40 percent when grazed during the dormant season. Table 1 provides a guide for estimating percent of weight removed as a relationship to percent of the plant height removed for various species. Browsing use on range browse (woody) species will maintain at least 35 percent of the current year's growth of the designated key browse species. Degree of use on browse species is based on the amount of current year's twig or leader growth removed.

Grazing use on pastureland should not be initiated until the designated key species has reached the minimum leaf height shown in Table 2. The designated key species will be grazed to maintain the minimum stubble height shown in Table 2. To maintain the health and vigor of key species, they should attain the minimum regrowth shown in Table 2, before the first killing frost

Final grazing or browsing use determinations will generally be made at or near the end of the grazing season.

Degraded or continuously grazed grasslands can benefit from one to two years of deferment during the growing season. Deferment should be for a minimum of three consecutive months. Optimum deferment periods are generally April 1 to June 30 for cool-season plants and June 1 to August 31 for warm-season plants.

All domestic livestock must be removed from the pastures being deferred.

Additional Criteria to Improve or Maintain the Health and Vigor of Selected Plant(s) and to Maintain a Stable and Desired Plant Community Under Rotational Grazing Systems

Grazing and rest periods should be scheduled to meet the desired objectives for the plant communities and the associated resources in each pasture, including the grazing animals.

Livestock movements should be based on plant growth and utilization and not calendar dates.

The planned grazing sequence should provide significant periods of rest at least every other year during the primary growing season of the key forage species. Rest periods should be rotated among all pastures throughout the growing

season, allowing each pasture to be rested during each portion of the growing season over a complete grazing cycle of two or more years. The same pasture should not be grazed during the same period of the growing season in consecutive years.

The planned grazing sequence may be changed for short periods to take advantage of seasonal forages, such as Kentucky bluegrass, annual forages, or crop aftermath.

Grazing prescriptions may need to be changed or adjusted when significant changes occur in plant vigor or composition, animal kinds or classes, and management objectives.

Where needed, grazing prescriptions will be adjusted to maintain or improve riparian and associated upland vegetation, in accordance with goals and objectives.

When two or more pastures are planned to be grazed only one time during the growing season, the same pasture will not be grazed during the same period of the growing season in consecutive years. On rangeland, provide a minimum of 45 consecutive days of rest during the growing season of the key forage species.

On pasturelands, provide a minimum of 30 consecutive days of rest during the growing season of the key forage species.

When two or more pastures are planned to be grazed and rested two or more times during a growing season, plan the grazing sequence to avoid grazing the same pasture during the same portion of the growing season in consecutive years. Plan the rest periods so each pasture will receive a minimum of 20 consecutive days of rest each period and a minimum of 75 total days during the growing season.

A monitoring program is needed to document actual grazing dates, livestock performance, climatic conditions, utilization, and vegetation changes over time. This is needed to analyze results and to develop the following year's grazing schedule.

Additional Criteria to Improve Animal Health and Productivity

Movement of animals will be in a manner to improve and/or maintain animal health and

performance, and to reduce or prevent *the* spread of disease, parasites, and contact with harmful insects or *toxic plants*.

Grazing should be applied in accordance with forage quality and quantity criteria that best meets the production requirements for the kind and/or class of animal.

Additional Criteria to Improve Water Quality and Quantity

Duration, intensity, frequency, and season of grazing in or near surface waters will be applied in such a manner that the impacts to vegetative and water quality will be positive.

Duration, intensity, frequency, and season of grazing will be managed to enhance vegetative cover and litter, resulting in reduced runoff, improved infiltration, and increased quantity of soil water for plant growth.

Duration, intensity, frequency, and season of grazing will be applied to enhance nutrient cycling by better manure distribution and increased rate of decomposition.

Additional Criteria to Reduce Soil Erosion and Maintain or Improve Soil Condition

Maintain the amount of vegetative cover needed to prevent accelerated soil erosion due to wind and water.

Duration, intensity, frequency, and season of grazing shall be *managed to minimize soil compaction, sustain high levels of vegetative cover, reduce detrimental effects on soil condition, and minimize soil erosion.*

On pastureland, use harrow or other equipment to break up dung to maintain a high level of nutrient cycling and enhance soil condition.

Additional Criteria to Provide or Maintain Food, Cover, and Shelter for Animals of Concern

The grazing prescription will be designed to result in plant communities that will meet the food, cover, and shelter requirements of animals of concern. Habitat management guides in Section I of the NDTG, Technical Notes, and Fact Sheets will aid in developing the appropriate grazing prescription.

Supplemental feed may be necessary to meet the desired nutritional levels for animals of concern, *either livestock or wildlife.*

Natural or artificial shelter will be provided in conjunction with prescribed grazing when conditions demand.

CONSIDERATIONS

Other practices, such as water developments, crossfencing, and salting, may be used to facilitate prescribed grazing.

The proper placement of supplemental feed, water, salt, minerals, or insect control devices *can be used to facilitate grazing distribution throughout a pasture. Improper placement can* have negative impacts on the soil, water, air, plant, and animal resources.

Livestock water supply must be adequate in quantity and quality to meet the demands of the livestock over the specified grazing period in each pasture.

Every grazing program must be tailored to the producer's goals and resources. Animal husbandry requirements, such as breeding programs, calving or lambing, shearing, and animal health, must be considered when designing the prescribed grazing plan.

Prescribed Grazing should consider the needs of other enterprises utilizing the same land, such as wildlife and recreational uses.

PLANS AND SPECIFICATIONS

A prescribed grazing schedule will be prepared for all fields and pastures, incorporating any additional feed supplementation for the operating unit or portion of an operating unit being addressed. Grazing schedules will be recorded in a manner that is readily understood and useable by the decision maker in his/her daily operations. The manner of documentation will depend upon the size and complexity of the operating unit and the details required for a grazing prescription.

A prescribed grazing schedule will incorporate the following information:

1. Forage inventory, documenting the expected forage quantity and quality for each grazing unit and when it is available. Also documenting any special problems restricting forage availability or nutritional quality, such as toxic plants or mixed land uses. ND- CONS- 19, Range Inventory, and Pasture Inventory Worksheet may be used for documentation.
2. Animal inventory, documenting animal numbers or animal unit equivalents and forage demands by day, week, or month, nutritional surpluses or deficiencies from the forage resource, and supplemental feed requirements for each kind and class of domestic livestock and grazing/browsing wildlife species of concern. Also, document any special needs of animals such as nesting cover, shelter, et al. ND-CONS- 1, Livestock- Forage Balance Sheet may be used for documentation.
3. A planned grazing schedule for livestock which identifies periods of grazing, resting, and other treatment activities for each grazing unit. ND-CPA-556, Prescribed Grazing Schedule, or similar worksheet may be used for documentation.
4. A contingency plan that details potential problems, such as drought, impacting forage availability, quantity, or quality, and provides guidelines for adjusting the grazing prescription to ensure resource management and economic feasibility without resource degradation.

OPERATION AND MAINTENANCE

Operation: The manager will apply Prescribed grazing on a continuing basis, making adjustments as needed to insure that the concept id objectives of its application are met.

Maintenance: An evaluation of the current Prescribed Grazing schedule should be made periodically to monitor the results of the prescription on all of the resources and the planned goals and objectives. If the planned goals or objectives are not being met or there is degradation of any of the resources, including animal performance, the prescription should be monitored annually and documented using NRCS-RANGE_414, Proper Grazing Use.

TABLE 1. Percent Weight Removed as a Relationship to Percent Height Removed

Species	10	20	30	40	50	55	60	65	70	75	80	85	90	95
Big Bluestem	2	6	11	17	23	30	35	41	46	54	62	71	79	89
Blue Grama	2	4	6	9	13	15	17	20	25	28	35	42	53	75
Buffalograss	2	5	7	11	18	21	32	35	38	45	53	62	71	77
Crested Wheatgrass	2	4	7	11	18	24	29	33	38	44	53	60	68	83
Green Needlegrass	2	4	6	11	16	20	25	30	36	44	52	61	71	85
Kentucky Bluegrass	1	3	5	9	14	16	20	26	34	40	47	57	71	85
Little Bluestem	1	4	9	15	23	27	32	37	41	47	53	61	70	82
Needleandthread	1	2	4	6	10	12	15	19	24	29	36	46	56	73
Ovalhead Sedge (Wetland)	2	5	9	13	18	21	26	31	39	46	54	62	73	86
Prairie Junegrass	2	4	6	9	13	16	18	21	25	30	35	42	55	69
Prairie Sandreed	2	6	11	17	23	30	35	41	46	54	62	71	79	89
Prairie Threeawn	2	6	11	17	26	30	36	42	46	53	61	70	78	89
Sandberg Bluegrass	1	2	4	8	11	14	16	19	24	30	37	46	56	75
Sand Dropseed	1	3	5	8	12	17	21	25	30	35	46	56	68	83
Sideoats Grama	1	3	5	9	14	18	23	27	32	39	47	56	66	80
Slender Wheatgrass	2	6	9	12	17	21	27	31	36	42	51	59	69	80
Smooth Bromegrass	3	6	11	15	19	27	32	37	45	52	58	63	82	92
Switchgrass	2	5	9	13	20	26	30	36	42	50	59	58	76	89
Threadleaf Sedge (Upland)	2	4	6	10	15	17	21	27	34	41	48	59	73	86
Western Wheatgrass	2	6	11	17	26	32	37	44	50	58	66	74	82	91

To use this table, first calculate the percent of the height of the plant removed by grazing. Find this figure on the top line of the table and then follow that column down to the appropriate species. This figure represents an estimate of the percent of the weight removed.

TABLE 2. Minimum Heights of Pasture Species for Initiating and Terminating Grazing

	Begin Grazing		End Grazing	
Species	Minimum & Optimum Height of Vegetative Growth in Inches	Approximate Date	Minimum Stubble Height in Inches	Minimum Regrowth Before Killing Frost in Inches
Alfalfa	6 – 10	May 15	3	8
Biennial sweetclover	6 – 10	May 1	2	-
Big & Sand bluestem	8 – 14	July 1	6	6
Creeping foxtail	8 – 10	May 7	3	6
Crested wheatgrass	4 – 6	April 20	3	4
Green needlegrass	6 – 8	May 15	3	5
Indiangrass	8 – 14	July 1	6	6
Intermediate wheatgrass	8 – 14	May 15	4	6
Kentucky bluegrass	4 – 6	May 7	2	4
Little bluestem	4 – 6	July 1	3	4
Orchardgrass	6 – 10	May 15	4	6
Pubescent wheatgrass	8 – 14	May 15	4	6
Prairie sandreed	8 – 14	June 20	4	6
Reed canarygrass	8 – 8	May 7	4	6
Russian wildrye	4 – 4	May 7	3	4
Sideoats grama	4 – 6	June 20	2	4
Slender wheatgrass	6 – 12	May 7	3	6
Smooth brome	8 – 14	May 7	4	6
Switchgrass	12 – 20	June 20	8	10
Tall wheatgrass	8 – 14	May 7	4	6
Timothy	6 – 10	June 1	3	5
Western wheatgrass	6 – 10	May 15	4	5

Grass and legume mixtures should be grazed in a manner that favors the dominant of desired species.

Height is the average height when leaves are lifted in a vertical position.

To get the highest return from Smooth bromegrass, Intermediate wheatgrass, and Pubescent wheatgrass start grazing when the plant is in the early boot stage. Clip high prior to seed set to trigger regrowth of basal sprouts.

The last harvest of alfalfa for pasture or hay should generally be made 35 to 45 prior to the time when the first hard freeze normally occurs.

Minimum regrowth is critical if stand is to be maintained. On pasture grazed only during the dormant season stubble height at the end of the grazing period id applicable.

Approximate date is for continuous grazing. Rotation grazing can usually begin three to seven days earlier in the season.